

REMARKS

Claims 1 - 18 are presently pending. In the above-identified Office Action, the Examiner finally rejected Claims 1 - 18 under 35 U.S.C. § 102(b) as being anticipated by Komine ('173). Several additional references were cited as being pertinent to Applicant's disclosure.

Submitted herewith is a Request for Continued Examination. Applicant respectfully requests that the present Amendment be entered before calculating the fee for the RCE.

By this Amendment, Claims 1 – 15, 17 and 18 are canceled, Claim 16 is amended and Claims 19 – 24 have been added for consideration. For the reasons set forth more fully below, Applicant respectfully submits that the subject application properly presents claims patentable over the prior art. Accordingly, reconsideration, allowance and passage to issue are respectfully requested.

The invention disclosed and claimed in the subject Application addresses the need in the art for a system or method for efficient generation of pulsed tunable laser output in the 2.5 – 3.0 micron region. The invention achieves a conversion from a pump wavelength through a primary emission wavelength to a secondary emission wavelength using a **single** crystal/resonator.

The invention is set forth in claims of varying scope of which Claim 16 is illustrative. Claim 16 recites:

16. An optical parametric oscillator comprising:

a crystal adapted to shift energy received at a first wavelength and output said shifted energy at a second wavelength, said second wavelength being a secondary emission of energy induced by a primary emission generated from said first wavelength by said crystal and

a mechanism disposed in functional alignment with said crystal for containing said primary emission and enhancing said secondary emission thereby, said mechanism including first and second mirrors, at least one of said mirrors being at least partially transmissive to energy at said second wavelength. (Emphasis added.)

None of the references, teach, disclose or suggest the invention as presently claimed. That is, none of the references, taken alone or in combination, teach, disclose or suggest an arrangement comprising a crystal with mirrors for shifting energy to provide primary and secondary emissions and for containing the primary emission and **enhancing the secondary emission** therefrom.

In the above-identified Office Action, the Examiner cited Komine in the rejection of the claims. Komine purports to teach a tunable mid-infrared wavelength converter using cascaded parametric oscillators. The Examiner asserts that in figures 1 and 3, Komine shows the first and second means of Claim 1. In this connection, the Examiner references col. 3, line 51 to col. 6, line 65. In Applicant's previous response, Applicant pointed out that this assertion was not supported by the reference.

Komine's idler wavelength (wave 2) is clearly part of the primary **process** inasmuch as it is generated by wave 0 as is wave 1. Indeed, Komine typifies the prior art inasmuch as Komine does not show an awareness of emissions associated with a **secondary process**. As defined in the present Application (page 6 line 4 through page 7, line 4), the secondary process occurs, and is due to, the feedback through the crystal of an output wave such as wave 1 of the Komine disclosure. Komine clearly does not show any awareness of emissions resulting from a reflection of wave 1 back through OPO 1.

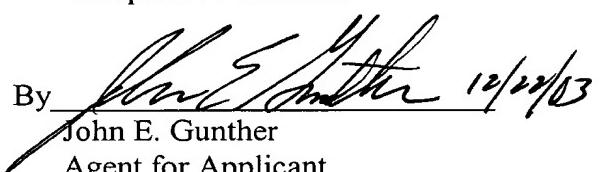
Consequently, Komine does not teach, show or suggest means for **enhancing** emissions resulting from a **secondary process**.

In response, the Examiner suggested that in Fig. 3, Komine showed the invention as claimed. In this connection, the Examiner assumed that the first and second reflective elements have high reflectivity at a wavelength of the primary emission and high reflectivity and partial transmissivity at the second wavelength. However, contrary to the assertion of the Examiner, no such teaching is provided in Figs. 3 and 8 of the reference (or elsewhere).

Accordingly, reconsideration, allowance and passage to issue are respectfully requested.

Respectfully submitted,
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